

Crystal ball questions on Describing and Explaining shapes of molecules

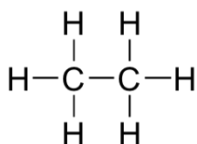
All of the following questions have not (as yet!) appeared in the NCEA Level 2 Exams

1) Compare and contrast the bond angles and shapes of OF_2 and H_2O

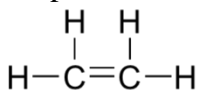
2) Compare and contrast the bond angles and shapes of NH_3 and PH_3

3) Compare and contrast the bond angles and shapes of H_2CO and BCl_3

4) Compare and contrast the bond angles and shapes of ethane, ethene and ethyne



ethane
(an **alkane**)

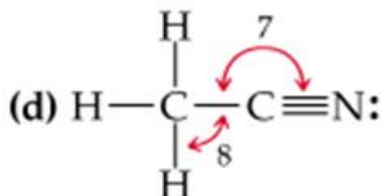
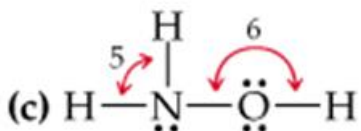
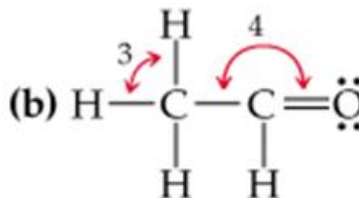
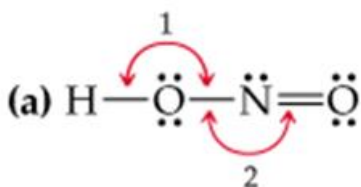


ethene
(an **alkene**)

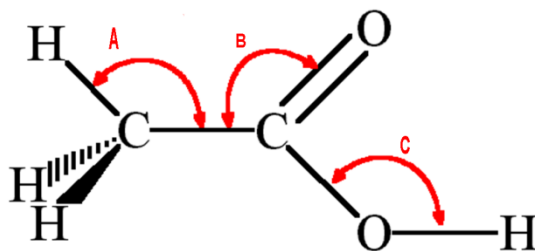


ethyne
(an **alkyne**)

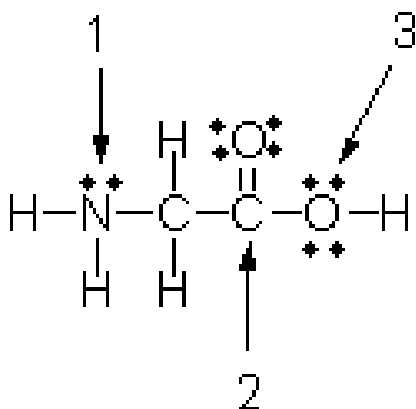
5) State the bond angles numbered 1 – 8, name the shapes of the angles numbered 1 – 8 and explain the reasons for the shapes with reference to lone pairs of electrons



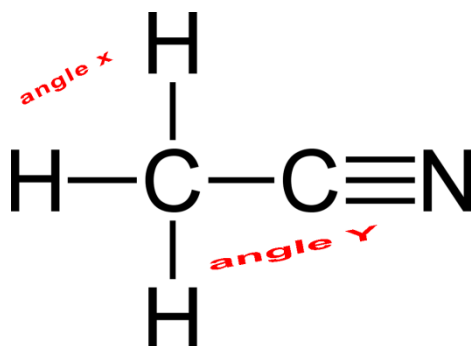
6) State the bond angles labelled below in ethanoic acid and name the shapes of the angles to which they refer. Explain fully.



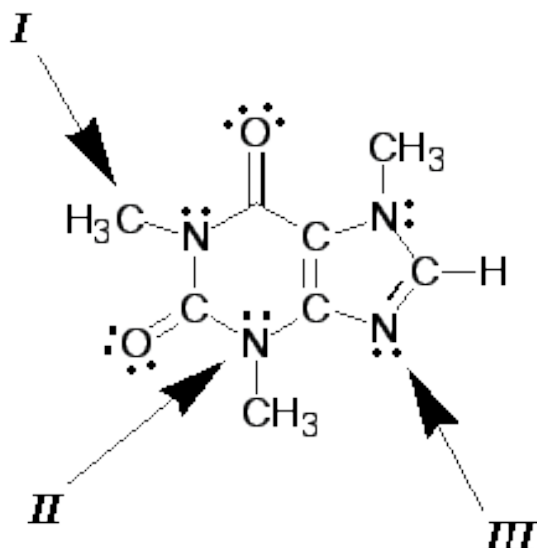
7) State the bond angles labelled below in the amino acid, glycine and name the shapes of the angles to which they refer. Explain fully.



8) State the bond angles labelled below in acetonitrile CH_3CN and name the shapes of the angles to which they refer. Explain fully.



9) State the bond angles labelled below in caffeine and name the shapes of the angles to which they refer. Explain fully.



10) State the bond angles labelled below in acetylsalicylic acid, otherwise known as aspirin and name the shapes of the angles to which they refer. Explain fully

